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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,640	03/29/2004	Yoshiharu Hayashi	056207.50393C3	9592
23911	7590	07/26/2004	EXAMINER	
CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			DESTA, ELIAS	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 07/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/810,640	HAYASHI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Elias Desta	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 March 2004.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-7 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 March 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## Detailed Action

### Claim Objection

1. Claims 2–5 and 7 are objected to because of the following minor informalities:

- Change “data base” to “database”. Corrections are required.

### Claim rejection – 35 U.S.C. 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1–7 are rejected under 35 U.S.C. 102(e) as anticipated by Ridolfo (U.S. PAP 2003/0216888)

4. In reference to claim 1: Ridolfo teaches a system for aiding the preparation of operation and maintenance plans for power generation installation in which plant data are obtained from a plurality of power generation units or

sub-systems (see *Ridolfo*, Fig. 2, and page 2, paragraphs 20–22). The efficiency for the concerned power generation unit or sub-system is calculated by making use of the obtained plant data (see *Ridolfo*, page 4, paragraph 73–76). Further, the failure probability of machines and apparatus or the parts in the power generation unit is calculated (see *Ridolfo*, page 5, paragraph 81), and operation and maintenance plans for the power generation unit or system are prepared based on the calculated power generation efficiency and failure probability (see *Ridolfo*, page 2, paragraph 18).

*In reference to claim 2*, *Ridolfo* further teaches that the failure history data of plant equipment for a given power generation unit or sub-system is stored in data acquisition system (database) as shown in Fig. 2, block 2. The failure probability of the respective plant equipment or machines and apparatus or parts is calculated by making use of the data acquired from the equipments (historical data), and then operation and maintenance plan is prepared based on the calculated power generation efficiency (Equipment failure and degradation module are used to do efficiency analysis, page 4, paragraph 74) and failure probability (see *Ridolfo*, Fig. 2 and page 5, paragraphs 81–89).

*With regard to claims 3 and 4*: as noted above in claims 1 and 2, *Ridolfo* further teaches that the periodic inspection is provided (such as probability of failure of a sub-system or system on a certain date) (see *Ridolfo*, Fig. 3) where

operation and maintenance plans for the respective power generation sub-systems or units are prepared based on the periodic inspection (target date entered manually as shown in Fig. 6) information stored in the periodic inspection information database because the calculated probabilities of failure are computed based on the historical inspection data obtained from the data acquisition unit (shown in *Ridolfo*, Fig. 2), where equipment failure & degradation (power generation efficiency) and probability of failures are computed.

In reference to claims 5, 6 and 7: *Ridolfo* teaches a system for aiding the preparation of operation and maintenance plans for a power generation installation (see *Ridolfo*, Fig. 2). The system includes:

- A means for obtaining data from a plant equipments or systems (see *Ridolfo*, Fig. 2, block 1) and for calculating for each equipment or sub-system power generation efficiency (see *Ridolfo*, page 4, paragraphs 73-76) by making use of plant data;
- A periodical inspection information database representing information of periodical inspections when a user enters a data, the system outputs a target date before failure may occur or probability of failure prediction (see *Ridolfo*, Fig. 6);

- A means for evaluating failure frequency in the sub-systems or units (see Ridolfo, page 5, paragraph 80); and
- Operation and maintenance plans for respective sub-systems or units based on periodic inspection (see Fig. 6) information stored in periodical inspection information database (see Ridolfo, page 3, paragraphs 37 to 54, Equipment Failure and Degradation module), the calculated power generation efficiency (see Ridolfo, page 4, paragraphs 73-76) and the evaluated failure frequency (see Ridolfo, page 5, paragraphs 81-89).

## Conclusion

### 5. Citation of pertinent prior art:

- Ogilvie et al. (IEEE Article, ‘Use of Data Mining Techniques in the Performance Monitoring and Optimization of a Thermal Power Plant’) teaches a method of developing a full range model for thermal power plants.
- Kinoshita et al. (U.S. Patent 5,371,606) teaches automation system for nuclear power plants.
- Eryurek et al. (U.S. PAP 2002/0169514) teaches automatic work and parts-order-generation-and-tracking system.

➤ Janssen et al. (U.S. Patent 5,122,727) teaches electric power supply system with distribution of output.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Desta whose telephone number is (571)-272-2214. The examiner can normally be reached on M-Thu (8:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-308-5841 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1782.

Elias Desta  
Examiner  
Art Unit 2857

-ed

July 22, 2004



PATRICK ASSOUAD  
PRIMARY EXAMINER